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# STINGLESS BEES ATTENDING HONEYDEW-PRODUCING TREE-HOPPERS IN GUATEMALA

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## SCIENTIFIC NOTES

STINGLESS BEES ATTENDING HONEYDEW-PRODUCING TREEHOPPERS IN GUATEMALA—(*Note*). Most entomologists are aware of ants that take sugar-rich honeydew from the anus of aphids; however, similar relationships exist between various Homoptera and other insects (Wilson 1971. Page 394 *in* The Insect Societies). Stingless bees (*Trigona*) have occasionally been associated with membracid treehoppers in Brazil (Laroca and Sakakibara 1976. Rev. Bras. Ent. 20(2): 71-2 and refs.), Colombia, and Panama (Salt 1929. Trans. Ent. Soc. Lond. 77: 431-68). Apparently similar relationships have not been reported from Central America. In Tikal, Guatemala, on 23 August 1976 at 4:00 p.m. I observed membracids, *Antianthe expansa* (Germar), on large shrubs on both sides of a dirt road. On one plant, ca. 50 bright red nymphs and 3 green adults were on the stem 6 cm below the terminal bud as well as on the petiole and midrib of a leaf connected to the stem at this point. Six stingless bees, *Trigona amalthea* (Oliv.), were associated with this group. On another plant, more than 100 membracids completely covered the stem for a length of 18 cm, beginning 15 cm from the terminal bud. Only nymphs were present in the upper 7 cm of the group. Two bees were associated with these. On a different branch of the same plant, ca. 20 cm from the terminal bud were approximately 40 nymphs and 7 adults of *A. expansa* tended by ants (*Crematogaster* sp.). At least 3 individuals of *T. amalthea* were also associated with this group.

The *Trigona* only interacted with the membracid nymphs. When a *Trigona* antennated the abdominal tip of a nymph, the latter would elevate its abdomen and exude one or more drops of liquid from the anus. The bee would absorb the liquid on its slightly extended mouthparts.

This is apparently the first record of *Antianthe* associated with bees, but *T. amalthea* has been associated with other membracids, *Aethalion* in Brazil and "juvenile membracids" in Colombia (Salt ibid.).

Do agonistic interractions occur between ants and bees over the honeydew resource? I observed only one ant-bee contact; the ant moved away. Further observations are necessary to determine the degree of resource defense (if any) by either species.

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